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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/816,363	03/26/2001	Vincent Antoine Victor Belaiche	204633US2	7327

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EXAMINER	
PHU, PHUONG M	
ART UNIT	**PAPER NUMBER**
2631	

DATE MAILED: 01/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/816,363	BELAICHE, VINCENT ANTOINE VICTOR	
	Examiner	Art Unit	
	Phuong Phu	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) *22-25* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,11,12,14,20 and 21* is/are rejected.

7)☒ Claim(s) *6-10,13 and 15-19* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 March 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/26/01*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to the Election filed on 10/20/04.

Election/Restrictions

2. Applicant's election of Group 1, claims 1-21 with traverse, filed on 10/20/04, is acknowledged.

3. Applicant's arguments in traversing the claim restriction have been fully considered, but they are not persuasive.

The applicant mainly argues that (i) the examiner fails to show the combination as claimed does not require the particulars of the subcombination; and (ii) the examination of all claims does not create a serious burden for the examiner beyond the burden that would be involved in examining the claims of group I.

Regarding to part (i), the examiner respectfully disagrees. The claims are directed to the restriction because they are drawn to two subcombinations which are distinct from each other and separate usable, in which, Group I (first subcombination), claims 1-21, is drawn to modulation of signals while group II (second subcombination), claims 22-25, drawn to demodulation of signals. The examiner does not need to show that the combination of the two subcombinations does not require the particulars of the subcombination because the claims do not have any claim(s) which claim(s) a combination of the two combinations, being restricted from Group I or Group II.

Regarding to part (ii), the examiner also disagrees because Group I does not include the method for demodulating at least one symbol received by receiver entity, as claimed in claims 22

and 23 and the device for demodulating at least one symbol received by a receiver entity, as claimed in claims 24 and 25.

Based on the above rationale, the requirement is still deemed proper and is therefore made **FINAL**.

Drawings

4. Figures 1-5 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The specification is objected to because it is not complied with 37 CFR 1.77(b).

6. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
(d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program

listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)

(e) BACKGROUND OF THE INVENTION.
(1) Field of the Invention.
(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

(f) BRIEF SUMMARY OF THE INVENTION.

(g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(h) DETAILED DESCRIPTION OF THE INVENTION.

(i) CLAIM OR CLAIMS (commencing on a separate sheet).

(j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 recites the limitation "said permutation step" on line 3. This limitation is lack of antecedent basis.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1-3, 12, 14 and 20 and 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Fukumasa et al (6,041,034), in view of Gilhousen (5,751,761) and Haykin, "An Introduction to Analog and Digital Communications".

-Regarding to claims 1 and 20, see figures 3A, 3B, 4 and 5, and col. 8, line 22 to col. 9, line 25, Fukumasa et al discloses a method and associated system (figure 3A) comprising:

step/means (inherently included) for assigning a spectrum spreading code (SPREAD CODE #1, SPREAD CODE #2) to each of at least one physical channel;

step/means (see figure 5) for generating at least one spectrum spreading code, said at least one spectrum spreading code being taken from a set of orthogonal spreading codes (C_0^{16}, ..., C_7^{128}) with variable spreading factor, and

step/means (MULTIPLIER 32, MULTIPLIER 35) for multiplying each of said at least one symbol of each of said at least one physical channel by the generated spectrum spreading code assigned to the physical channel under consideration.

Fukumasa et al does not disclose whether said step for generating at least one spectrum spreading code comprises a step for generating at least one spectrum spreading code comprising a sequence of chips wherein at least one chip has the value 0.

Gilhousen, in the same endeavor, teaches generating at least one spectrum spreading code, accordance with a tree structure, comprising a sequence of chips wherein at least one chip has the value 0 (e.g., 00001111 and so on) (see figure 2, and col. 9, line 64 t col. 11, line 62).

Since Fukumasa et al does not disclose in detail how said at least one spectrum spreading code is generated, therefore, for an application for generating said at least one spectrum

spreading code in Fukumasa et al, it would have been obvious for one skilled in the art, when building or carrying out Fukumasa et al invention, to generate said at least one spectrum spreading code, accordance with a tree structure, comprising a sequence of chips wherein at least one chip has the value 0, as taught by Gilhousen, in order to obtain an orthogonality of codes.

Fukumasa et al in view of Gilhousen does not disclose that each of the chips with value 0 included within a spectrum spreading code thus generated, then called discontinuous spectrum spreading code, creates, for the physical channel to which said discontinuous spectrum spreading code is assigned, a transmit power approaching zero for the corresponding transmitted signal.

Haykin discloses that a digital sequence can be electrically generated in an on-off or unipolar signaling fashion wherein logic "1" of the digital sequence is generated with a positive level and logic "0" is generated with a zero level (see figure 5.12(a), and pages 197 and 198).

Therefore, for an application of electrically generating signals for each of the chips in Fukumasa et al invention in view of Gilhousen, it would have been obvious for one skilled in the art to generate each of the chips with value 0 included within a spectrum spreading code with a zero level and each of the chips with value 1 included within the spectrum spreading code with a positive level, as taught by Haykin, for transmission without affecting the overall system performance.

In such an implementation of Fukumasa et al invention in view of Gilhousen and Haykin, the spectrum spreading code can be inherently named as discontinuous spectrum spreading code or one of other convenient names for used in the invention, without affecting the overall system performance.

Further, In such an implementation of Fukumasa et al invention in view of Gilhousen and Haykin, each of the chips with value 0, included within the spectrum spreading code thus generated for the physical channel to which said spectrum spreading code is assigned, inherently create a transmit power approaching zero for the corresponding transmitted signal at said chips because that said chips are electrically conveyed by zero levels.

-Regarding to claim 2, as applied for claim 1, in such an implementation of Fukumasa et al invention in view of Gilhousen and Haykin, said sequence of chips can further comprises at least one chip of logic "1" with an electrical value +1.

-Regarding to claim 3, in Fukumasa et al invention in view of Gilhousen and Haykin, said step for assigning a spectrum spreading code to each of said at least one physical channel inherently precedes said step for generating at least one spectrum spread code so that said step for generating then knows which spectrum spreading code needs to be generated.

-Regarding to claim 12, Fukumasa et al discloses that said method is implemented in a transmitter entity (BS) after the reception by said transmitter entity of a request message (S1), called first request message, transmitted by an at least one receiver entity (MS) (see figure 4).

-Regarding to claim 14, Fukumasa et al discloses that said method is implemented on initiative of a transmitter entity (BS) (see figure 4).

-Regarding to claim 21, Fukumasa et al discloses mobile station (MS) comprising means for transmitting at least one physical channel, each of said at least one physical channel carrying at least one symbol, wherein said mobile station comprises a modulation device (see figure 3A, and col. 8, lines 52).

Allowable Subject Matter

11. Claims 6-10, 13, 15-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 571-272-3009. The examiner can normally be reached on M-F (6:30-2:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phuong Phu
Primary Examiner
Art Unit 2631

Phuong Phu 12/31/04
Phuong Phu

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